UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/468,042	12/21/1999	REINER LUDWIG	34645-00489U	3150

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EXAMINER
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ART UNIT	PAPER NUMBER
2133	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
	09/468,042	LUDWIG ET AL.
Office Action Summary	Examiner	Art Unit
	Stephen M. Baker	2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-25_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-25_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☒ All b) ☐ Some * c) ☐ None of:

   1. ☒ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _5_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Claim Objection

1.   Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form.

Claim 2 apparently adds no further limit, as a "modular protocol structure" is considered to be inherent to the general concept of protocol layering, as also indicated by applicant's specification (p. 1, lines 19-20).

Claim Rejections - 35 USC § 112

1.   Claims 4-6 and 8-17 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim <u>cannot itself depend from a multiple claim</u>. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

2.   Claims 22 and 23 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim must refer in the <u>alternative</u> form to other claims. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the
United States before the invention thereof by the applicant for patent, or on an international application
by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this
title before the invention thereof by the applicant for patent.

4.   The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) do not apply to the examination of this application as the application

being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35

U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5.   Claims 1, 2, 21, 24 and 25 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent No. 5,936,965 to Doshi et al. ("Doshi").

Regarding claims 1 and 24: Doshi discloses a system and a "method for

improving a processing time of received data in a packet-oriented application in a data

transmission between a transmitter and a receiver each comprising a first and a second

protocol layer via a communication network" wherein the first and second protocol

layers respectively comprise an higher layer PDU preparation layer (HPPL) and a

segmentation, reassembly and packing layer (SAR/PACK) (col. 2, lines 14-16). The

transmission side of Doshi's system operates such that "data from the first protocol

layer are released to the second protocol layer in the transmitter", "the data of the first

protocol layer are divided into consecutive data packets of the second protocol layer",

and "the data packets of the second protocol layer are transmitted via the

communication network" (col. 2, lines 40-55). In the receiving side of Doshi's system

"data packets of the second protocol layer received in the receiver are sorted according

to the transmitted sequence", "the data packets received are allocated to data packets

of the first protocol layer on the second protocol layer", and "upon a data packet of the

first protocol layer has been (sic) completely generated, said data packet is released to

the first protocol layer" (col. 2, lines 59-64).

Regarding claim 2: a "modular protocol structure" is considered to be inherent to

the protocol layering concept, in general.

Regarding claim 21: Doshi's IP and IPX are "packet oriented applications" that

are "internet applications".

Regarding claim 25: Doshi's PDU reassembly of course requires "a buffer for

temporarily storing the received data packets of the second protocol layer".

6.   Claims 1-3, 7, 20, 21, 24 and 25 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent No. 6,236,647 to Amalfitano ("Amalfitano").

Regarding claims 1 and 24: Amalfitano discloses a "method for improving a

processing time of received data in a packet-oriented application in a data transmission

between a transmitter and a receiver each comprising a first and a second protocol

layer via a communication network", wherein the first and second protocol layers

respectively comprise an IP layer and an inventive layer that splits network layer frames

into multiple subframes (col. 2, lines 15-20). At Amalfitano's transmitter, "data from the

first protocol layer are released to the second protocol layer in the transmitter", "the data

of the first protocol layer are divided into consecutive data packets of the second

protocol layer", and "the data packets of the second protocol layer are transmitted via

the communication network". At Amalfitano's receiver, "data packets of the second

protocol layer received in the receiver are sorted according to the transmitted

sequence", "the data packets received are allocated to data packets of the first protocol

layer on the second protocol layer", and "upon a data packet of the first protocol layer

has been (sic) completely generated, said data packet is released to the first protocol

layer".

Regarding claim 3: Amalfitano's subframes are "numbered consecutively and

marked by a corresponding sequence number" (col. 2, lines 40-49).

Regarding claim 7: In accordance with the layering concept for assembling out

of order subframes, Amalfitano's subframes are "sorted into a sequence corresponding

to a sequence number".

Regarding claim 20: In Amalfitano's system, "the data transmission is performed

via an IP network and a mobile communication network".

Regarding claim 21: Amalfitano's TCP and IP are "packet oriented applications"

that are "internet applications".

Regarding claim 25: Amalfitano's reordering, necessitated by his selective reject

protocol, of course requires "a buffer for temporarily storing the received data packets of

the second protocol layer".

7.   Claims 1-3, 7, 20, 24 and 25 are rejected under 35 U.S.C. 102(e) as being

anticipated by U.S. Patent No. 6,307,867 to Roobol et al. ("Roobol").

Regarding claims 1 and 24: Roobol discloses a "method for improving a processing time of received data in a packet-oriented application in a data transmission between a transmitter and a receiver each comprising a first and a second protocol layer via a communication network", wherein the first and second protocol layers respectively comprise an LLC layer and a RLC layer (col. 7, lines 26-39). At Roobol's transmitter, "data from the first protocol layer are released to the second protocol layer in the transmitter", "the data of the first protocol layer are divided into consecutive data packets of the second protocol layer", and "the data packets of the second protocol layer are transmitted via the communication network". At Roobol's receiver, "data packets of the second protocol layer received in the receiver are sorted according to the transmitted sequence", "the data packets received are allocated to data packets of the first protocol layer on the second protocol layer", and "upon a data packet of the first protocol layer has been (sic) completely generated, said data packet is released to the first protocol layer".

Regarding claim 3: Roobol's RLC packets are "numbered consecutively and marked by a corresponding sequence number" (col. 2, lines 40-49).

Regarding claim 7: In accordance with the layering concept for assembling out of order RLC packets, Roobol's RLC packets are "sorted into a sequence corresponding to a sequence number".

Regarding claim 20: In Roobol's system, "the data transmission is performed via an IP network and a mobile communication network" (col. 6, lines 47-50).

Regarding claim 25: Roobol's reordering, necessitated by his ARQ protocol, of course requires "a buffer for temporarily storing the received data packets of the second protocol layer".

8.   Claims 1-3, 7, 19-21, 24 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,256,300 to Ahmed *et al.* ("Ahmed").

Reference is hereby made to column 9.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1-3, 7, 18, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over RFC1547 in view of RFC1663.

RFC1547 describes the combination of "first layer" packet-oriented application protocols (*e.g.* IP, Appletalk, DECNet, IPX and XNS, as mentioned in section 2.6) with a to-be-realized internet standard PPP "second layer" protocol that is to be responsible for segmentation and reassembly of such "first layer" packets. RFC1547 does not, however, disclose a PPP protocol with sequence numbers for sorting and reassembling PPP packets received out-of-order.

RFC1663 discloses a reliable PPP numbered-mode protocol with sequence

numbers for sorting and reassembling PPP packets received out-of-order, to be used in

circumstances where a reliable link is advisable (see Introduction, paragraph 3.).

At the time the invention was made, it would have been obvious to a person

having ordinary skill in the art to apply the reliable PPP protocol disclosed in RFC1663

as the PPP protocol for the above-PPP layers described in RFC1547. Such a

combination would have been obvious because RFC1663 teaches the advisability of

reliable PPP in relevant circumstances.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Stephen M. Baker whose telephone number is (703)

746-7240. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30

PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone

numbers for the organization where this application or proceeding is assigned are (703)

746-7239 for regular communications and (703) 746-7238 for After Final

communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3800.

Stephen M. Baker
Primary Examiner
Art Unit 2133

smb
March 10, 2002